From:	Schindler, Jason
To:	Haklar, James; Mark Fisher
Cc:	Ramin Ansari (Ramin.Ansari@chemtura.com); Martin, Ana (Ana.Martin@chemtura.com); Blarr, Steve; Jones, Sally; Peachey, Bryan; Parekh, Bhuvnesh; Devorak, Coleen
Subject:	Hatco Former Lagoon Area Cap Design
Date:	Monday, May 22, 2017 3:56:23 PM
Attachments:	Hatco-LFCap-RevC Signed.pdf 2017-05-22 QAPP Add X119 Supp Exc.pdf

---

Jim, Mark,

Attached please find the cap design drawings for the Former Lagoon Area. Please let me know if you need hard copies and, if so, how many sets.

In concert with the capping effort we plan to excavate the remaining PCB-contaminated soils from Scrape Area X119 and reuse this soil beneath the cap in the Former Lagoon Area. I have attached the supplemental excavation plan that describes the work planned to complete Scrape Area X119.

Pending your review and approval we will proceed with construction activities. Please let me know if you have any questions or require additional information.

Thanks,

Jason

Jason Schindler
Principal Project Manager
Weston Solutions, Inc.
205 Campus Drive
Edison, NJ 08837
Tel: 732-417-5804
Cell: 732-740-5529
Fax: 732-417-5801
www.westonsolutions.com

WESTON SOLUTIONS, INC.
205 CAMPUS DRIVE
EDISON, NEW JERSEY 08837
732-417-5800 • FAX: 732-417-5801

Memorandum

To: James S. Haklar, Ph.D., USEPA Region 2
Mark D. Fisher, LSRP, The ELM Group

From: Jason Schindler, Weston Solutions, Inc.

Date: May 22, 2017

Re: Quality Assurance Project Plan Addendum
Scrape Area X119 Supplemental Excavation Plan
Hatco Remediation Project
Fords, New Jersey

This memorandum and attachments serve as an addendum to the Quality Assurance Project Plan (QAPP) for the Hatco remediation project, most recently revised August 22, 2014. This addendum is intended to support supplemental excavation of the area designated "Scrape Area X119" at the Hatco site.

Scrape Area X119 was excavated as part of the Southeast Leg remediation project in 2014 and 2015. Surface soil samples collected in June 2015 from the perimeter of the primary excavation at Scrape Area X119 exhibited total polychlorinated biphenyl (PCB) concentrations above the remediation criterion of 2 milligrams per kilogram (mg/kg). In October 2015, shallow, one-foot deep excavations were completed along the edges of the Scrape Area to address these exceedances. The shallow excavations successfully removed the majority of the remaining surficial contamination along the edges. Post excavation samples were collected along the perimeter of the Scrape Area and were analyzed for PCBs. Samples from the southern perimeter were also analyzed for bis(2-ethylhexyl)phthalate (BEHP), to document removal of an isolated exceedance in that area. However, post-excavation samples from six perimeter locations exceeded the PCB criterion. Post-excavation samples from the southern-most location (X119-C8) also exceeded the BEHP soil criterion of 210 mg/kg. Additional soil samples were collected in March 2016 to determine the extent of surficial contamination. Based on the resulting data six discrete areas require further excavation. The sample locations and the horizontal and vertical extent of the six areas to be removed are depicted on Figure 1. Table 1 identifies the previous post-excavation samples that exceed the criteria, and the approximate dimensions and volume of the areas to be removed.
The area is located in a wetland which cannot be accessed using heavy equipment. Soils will therefore be excavated using hand-held equipment. The excavations will be backfilled with clean fill and seeded.

Large trees border several of the planned excavation areas. The trees will not be removed. Where major tree root systems extend into the planned areas, soil will be excavated by hand from around the roots to the extent practicable and replaced with clean soil.

Post-excavation soil samples are summarized on Table 2. Dedicated, disposable sampling trowels will be used to collect samples and to place the sample material directly into laboratory-prepared sample containers.

Sample collection and analysis will be performed in accordance with the protocols described in the QAPP revised August 22, 2014. Sample quantities, frequencies, analytical parameters and field quality control samples are summarized on Table 3.

ATTACHMENTS:
Figure 1. Scrape Area X119 Supplemental Excavations
Table 1. Supplemental Excavation Plan
Table 2. Post-Excavation Sampling Summary
Table 3. Quality Control Sampling Summary

L:\13067 Hatco\5.0 QA-QC and Safety\5.1 Quality Plans\5.1.1 - QAPP and any Addenda\2017-05 QAPP Add X119\QAPP Add X119 Supp Exc.docx

S-09
1-Foot Deep Perimeter Excavation
X119-SW-D-North-A-B-O-102915
X119-SW-D-North5-A-B-0-060815
X119-SW-D-North-C-D-0-060815
X119-SW-1-Ea-G-H-0-111514
X119-SW-C-North5-A-B-0-060815
X119-SW-C-North-A-B-O-102915
X119-SW-1-East-A-B-0-052215
X119-SW-C-North-C-D-0-060815
X119-SW-1-East-M-N-0-032715
X119-PE-D1-O-P-0-032715
X119-SW-C-North-K-L-032715
X119-SW-B-North-A-B-0-052215
S-10
X119-SW-B-North-K-L-0-032715
X119-PE-C2-O-P-0-032715
X119-PE-D2-O-P-0-032715
X119-SW-2-East-A-B-0-052215
X119-SW-2-East-M-N-0-032715
X119-SW-2-West-A-B-0-052215
X119-PE-B2-M-N-0-032715
X119-PE-A2-M-N-0-032715
X119-SW-2-West-K-L-032715
X119-PE-D3-M-N-0-032715
X119-SW-3-East-K-L-0-032715
X119-SW-3-East-A-B-0-052215
X119-HS1-PE-C3-Y-Z-0-052215
X119-PE-C3-X-Y-O-102815
X119-PEC-C3-O-P-0-032715
X119-HS1-SW-C3-West-R-S-0-050515
X119-SW-3-West-A-B-0-052215
Bottom Elevation = 12 ft MSL
X119-SW-3-West-K-L-032715
X119-PE-B3-M-N-0-032715
X119-SW-4-East-A-B-0-052215
S-11
X119-PE-C4-M-N-0-032715
X119-SW-4-East-K-L-032715
X119-PE-D4-M-N-0-032715
X119-SW-4-West-A-B-0-052215
X119-PE-B4-M-N-0-032715
X119-HS1-SW-D-North-W-X-0-052215 (Excavated)
Large Tree (Typ)
X119-SW-5-East-A-B-0-052215
X119-SW-5-East-K-L-0-040115
X119-PE-C5-M-N-0-040115
X119-PE-D5-Z-AA-0-103215
X119-HS1-SW-D5-East-R-S-0-050515 (Excavated)
X119-HS1-SW-5-West-W-X-0-052215
X119-HS1-SW-D5-West-R-S-0-050515 (Excavated)
X119-PE-B5-M-N-0-040115
X119-SW-5-West-A-B-0-102715
X119-SW-5-West-K-L-0-040115
Bottom Elevation = 8.3 ft MSL
X119-SW-5-West5-A-B-0-060815
X119-SW-5-West-C-D-0-060815
X119-HS1-SW-D-South-W-X-0-052215 (Excavated)
X119-SW-6-East-A-B-0-052215
X119-SW-6-East-K-L-0-040115
X119-5W: 1.5 CY
4 ft by 7 ft by 1 ft deep
X119-PE-E6-M-N-0-040115
X119-B6-05NW-A-B-0-032416
X119-PE-D6-M-N-0-031115
S-12
X119-SW-6-West-C-D-0-060815
X119-SW-6-West5-A-B-0-060815
X119-PE-C6-M-N-0-031115
X119-SW-B6-C-D-0-102715
X119-PE-B6-C-D-0-102715
X119-SW-E-South-K-L-0-040115
X119-B6-05SW-A-B-0-032416
X119-SW-6-West-K-L-0-033115
X119-SW-D-South-K-L-0-040115
X119-SW-E-South-C-D-0-060815
X119-ESO-10E-B-C-0-032316
X119-PE-D7-M-N-0-040115
X119-B6: 7.4 CY
10 ft by 10 ft by 2 ft deep
X119-ESO-05E-A-B-0-032416
X119-PE-C7-M-N-0-040115
X119-SW-E-South5-A-B-0-060815
X119-SW-E-South-A-B-0-102715
X119-SW-7-West-K-L-0-040115
X119-ES: 1.2 CY
4 ft by 8 ft by 1 ft deep
X119-SW-D-South-A-B-0-102715
X119-ESO-05S-A-B-0-032416
X119-7W-05W-A-B-0-032416
X119-SW-7-West-A-B-0-102715
X119-SW-D-South-C-D-0-060815
X119-SW-D-South5-A-B-0-060815
X119-DSO-05SE-A-B-0-032416
X119-7W: 1.2 CY
4 ft by 8 ft by 1 ft deep
X119-DS: 1.2 CY
4 ft by 8 ft by 1 ft deep
X119-7W-05S-A-B-0-032416
X119-DSO-05SW-A-B-0-032416
1-Foot Deep Perimeter Excavation
X119-SW-C-South-K-L-0-040115
X119-SW-C8-A-C-0-102715
X119-PE-C8-C-D-0-102715
X119-C8-E-F-0-032416
X119-C8-05SW-A-B-0-032416
X119-C8-05SE-A-B-0-032416
X119-C8-05SW-C-D-0-032416
X119-C8-05SE-C-D-0-032416
X119-C8: 5.9 CY
8 ft by 10 ft by 2 ft deep

0 5 10 20 Feet

Legend
- Post-Excavation Sample Location
- Supplemental Delineation Sample Location
- Recovery Sump
- Perimeter Excavation Limits
- Excavation Area Limits
- Supplemental Excavation Area
- Hot Spot Excavation Area
- Hatco Site Boundary
- Major Post-Excavation Contour
- Minor Post-Excavation Contour

NOTE:
1. Red label identifies sampling locations that have exceedances.

DRAWING TITLE:
Scrape Area X119
Soil Sample Locations

FIGURE: X

SCALE: 1 " = 5 '

DATE: May 2017

CLIENT NAME: Hatco Corporation

PROJECT NAME: Hatco Remediation

N W E S

REPORT DATE: April 2017

PROJECT MANAGER: J. Schindler

DRAWING: 20087_X119_PostEX_Add.mxd
PATH: P:\Hatco\GIS\MXD\2017_04_QAPP\

CHECKED BY: J. Schindler

REVISION No. 0

CONTRACT No.
DELIVERY ORDER NO.

WORK ORDER No. 13067.001.003.8030

DRAWN/MODIFIED BY: S. Poultney
DATE CREATED: 4/27/2017

Weston Solutions, Inc.
205 Campus Drive Edison, New Jersey 08837-3939
TEL: (732) 417-5800 Fax: (732) 417-5801
http://www.westonsolutions.com

Table 1. Supplemental Excavation Plan
Scrape Area X119
Hatco Remediation Project
Fords, New Jersey

Area	Post-Excavation Sample Exceedances to be Removed	Sample Interval (feet below grade)	Concentration Remaining (mg/kg)		Contaminanat Criterion (mg/kg)		Dimensions (feet)			Volume (cubic yards)
			PCB	BEHP	PCB	BEHP	N-S	E-W	Depth	
X119-ES	X119-SW-E-South-A-B-0-102715	0.0-0.5	50	--	2	210	4	8	1	1.2
X119-DS	X119-SW-D-South-A-B-0-102715	0.0-0.5	5.7	--	2	210	4	8	1	1.2
X119-C8	X119-SW-C8-A-C-0-102715	0.0-0.5	48	330	2	210	8	10	2	5.9
	X119-PE-C8-C-D-0-102715	1.0-1.5	84	1,100	2	210				
X119-7W	X119-SW-7-West-A-B-0-102715	0.0-0.5	5.4	--	2	210	8	4	1	1.2
X119-B6	X119-SW-B6-C-D-0-102715	1.0-1.5	19	--	2	210	10	10	2	7.4
	X119-PE-B6-C-D-0-102715	1.0-1.5	31	--	2	210				
X119-5W	X119-SW-5-West-A-B-0-102715	0.0-0.5	5.5	--	2	210	4	10	1	1.5

Notes:

mg/kg:	Concentration in milligrams per kilogram dry weight basis
--:	Post-excavation sample not analyzed for BEHP
PCB	Total polychlorinated biphenyls
BEHP	Bis(2-ethylhexyl)phthalate
N-S	Excavation dimension trending north/south parallel to the Scrape Area X119 sidewall at this location
E-W	Excavation dimension trending east/west parallel to the Scrape Area X119 sidewall at this location

L:\13067 Hatco\5.0 QA-QC and Safety\5.1 Quality Plans\5.1.1 - QAPP and any Addenda\2017-05 QAPP Add X119\[2017-05 X119 Supp Excavation R1.xlsx]Table 1 Exc Plan

Table 2. Post-Excavation Sampling Summary
Scrape Area X119 Supplemental Excavation
Hatco Remediation Project
Fords, New Jersey

Area	Post-Excavation Sample Location	Post-Excavation Sample Depth Interval (feet)	Post-Excavation Sample Identification	Parameters
X119-ES	Bottom	1.0-1.5	X119-ES-PE-C-D-[DATE]	PCB
	Eastern Side Wall	0.0-0.5	X119-ES-Ea-A-B-[DATE]	PCB
	Western Side Wall	0.0-0.5	X119-ES-We-A-B-[DATE]	PCB
	Southern Side Wall	0.0-0.5	X119-ES-So-A-B-[DATE]	PCB
X119-DS	Bottom	1.0-1.5	X119-DS-PE-C-D-[DATE]	PCB
	Eastern Side Wall	0.0-0.5	X119-DS-Ea-A-B-[DATE]	PCB
	Western Side Wall	0.0-0.5	X119-DS-We-A-B-[DATE]	PCB
	Southern Side Wall	0.0-0.5	X119-DS-So-A-B-[DATE]	PCB
X119-C8	Bottom	2.0-2.5	X119-C8-PE-E-F-[DATE]	BEHP; PCB
	Eastern Side Wall	0.0-0.5	X119-C8-Ea-A-B-[DATE]	BEHP; PCB
	Western Side Wall	0.0-0.5	X119-C8-We-A-B-[DATE]	BEHP; PCB
	Southern Side Wall	0.0-0.5	X119-C8-So-A-B-[DATE]	BEHP; PCB
X119-7W	Bottom	1.0-1.5	X119-7W-PE-C-D-[DATE]	PCB
	Northern Side Wall	0.0-0.5	X119-7W-No-A-B-[DATE]	PCB
	Western Side Wall	0.0-0.5	X119-7W-We-A-B-[DATE]	PCB
	Southern Side Wall	0.0-0.5	X119-7W-So-A-B-[DATE]	PCB
X119-B6	Bottom	1.0-1.5	X119-B6-PE-C-D-[DATE]	PCB
	Northern Side Wall	0.0-0.5	X119-B6-No-A-B-[DATE]	PCB
	Western Side Wall	0.0-0.5	X119-B6-We-A-B-[DATE]	PCB
	Southern Side Wall	0.0-0.5	X119-B6-So-A-B-[DATE]	PCB
X119-5W	Bottom	1.0-1.5	X119-5W-PE-C-D-[DATE]	PCB
	Northern Side Wall	0.0-0.5	X119-5W-No-A-B-[DATE]	PCB
	Western Side Wall	0.0-0.5	X119-5W-We-A-B-[DATE]	PCB
	Southern Side Wall	0.0-0.5	X119-5W-So-A-B-[DATE]	PCB

Notes:

PCB Total polychlorinated biphenyls

BEHP Bis(2-ethylhexyl)phthalate

[DATE] Six digits identifying the month (Mo), day (Da) and year (Yr) of sample collection MoDaYr

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Table 3. Quality Control Sampling Summary
Scrape Area X119 Supplemental Excavation
Hatco Remediation Project
Fords, New Jersey

Matrix	Parameters	Field Samples	Sample Frequency	MS/MSD	Duplicates
Soil	PCB	24	4 per excavation	2	2
	BEHP	4	4 samples from 1 excavation	1	1

Notes:

PCB Total polychlorinated biphenyls by SW-846 Method 8082

BEHP Bis(2-ethylhexyl)phthalate by SW-846 Method 8270C

No field blank samples are required because samples will be collected using dedicated, disposable sampling tools.

Laboratory-blind duplicate samples will be collected at a frequency of one per 20 field samples

MS/MSD: Matrix spike/matrix spike duplicate samples will be collected at a frequency of one per 20 field samples

L:\13067 Hatco\5.0 QA-QC and Safety\5.1 Quality Plans\5.1.1 - QAPP and any Addenda\2017-05 QAPP Add X119\[2017-05 X119 Supp Excavation R1.xlsx

HATCO CORPORATE SITE
CAP DESIGN
FORMER LAGOON AREA
FORDS, NEW JERSEY

MAY 2017

LOCATION MAP

DRAWING INDEX

DRAWING NO.	SHEET NO.	DRAWING TITLE
G–01	1	TITLE SHEET AND DRAWING INDEX
C–01	2	EXISTING CONDITIONS PLAN
C–02	3	FINAL GRADING PLAN
C–03	4	SECTIONS SHEET 1 OF 3
C–04	5	SECTIONS SHEET 2 OF 3
C–05	6	SECTIONS SHEET 3 OF 3

VICINITY MAP

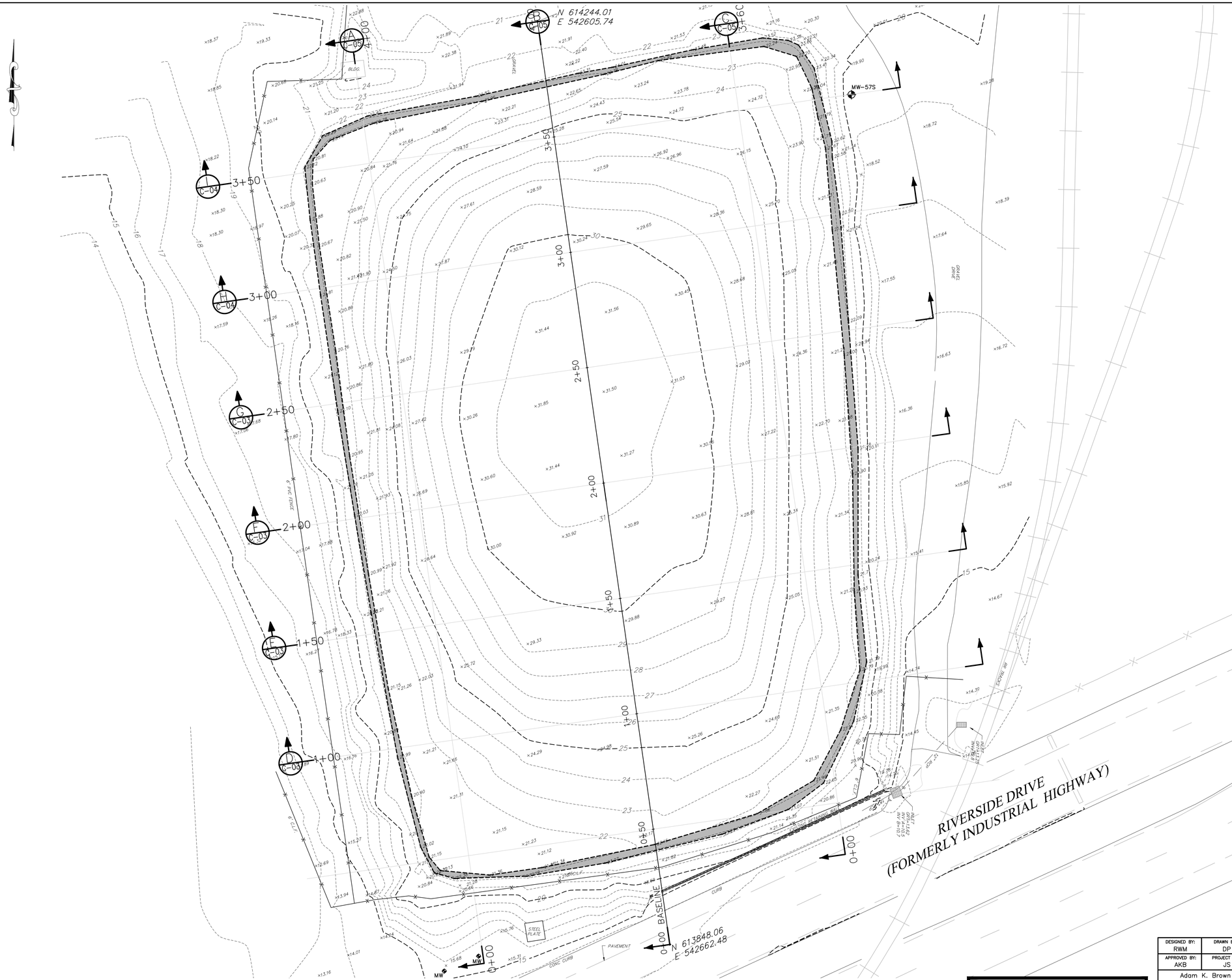
NOT FOR CONSTRUCTION

Adam K. Brown
STATE OF NEW JERSEY
ADAM K. BROWN
No. 24GE05296400
LICENSED PROFESSIONAL ENGINEER
NJ PROFESSIONAL ENGINEER
24GE05296400

WESTON SOLUTIONS

DRAWING NO.: G–01 | SHEET NO.: 1 OF 6

FILE NO.: G:\ACADPROJ\130670010003 HATCO LAGOONCAP\COVERSHEET–NJ.DWG



GENERAL NOTES:

1. TOPOGRAPHIC FEATURES OBTAINED FROM DRAWING ENTITLED "TOPOGRAPHIC SURVEY PORTION OF TAX LOT 100.01 BLOCK 67 1020 KING GEORGES POST ROAD TOWNSHIP OF WOODBRIDGE MIDDLESEX COUNTY NEW JERSEY" PREPARED BY DPK CONSULTING OF MIDDLESEX NEW JERSEY DATED APRIL 7, 2017.
2. DPK CONSULTING DID NOT PERFORM A BOUNDARY SURVEY OF THIS PROPERTY. NO PROPERTY LINES ARE SHOWN.
3. THIS SURVEY REPRESENTS FIELD CONDITIONS AS OF APRIL 18, 2017.
4. THE UTILITIES SHOWN HAVE BEEN LOCATED FROM EVIDENCE OBSERVED ON THE SURFACE ONLY OR HAVE BEEN SHOWN GRAPHICALLY PER SUPPLIED MATERIALS. DPK CONSULTING MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. DPK CONSULTING FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. DPK CONSULTING HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
5. THE PROJECT VERTICAL DATUM IS BASED UPON NAVD 88 DERIVED USING LEICA GX1230 GPS RECEIVERS AND KEYNET.

SYMBOL LEGEND

	CONC. MONUMENT FND		MAIL BOX
	I.P. / I.B. FND		CABLE TV BOX
	TACK / STAKE FND		TELEPHONE BOX
	WETLAND FLAG		A/C UNIT
x 103.85	SPOT ELEVATIONS		TRANSFORMER
	TRAFFIC SIGNAL POLE	E	ELECTRIC METER
	UTILITY POLE	G	GAS METER
	GUY WIRE	W	WATER METER
	LIGHT POLE	WV	WATER VALVE
	SIGN	GV	GAS VALVE
	FIRE HYDRANT	CO	CLEAN OUT
	BOLLARD	SP	SPRINKLER HEAD
RD	ROOF DRAIN	XG	GAS
	MONITORING WELL	XW	WATER
W	WELL	XE	ELECTRIC
	MANHOLE	XT	TELEPHONE
	"A"-INLET	XC	CABLE TV
	"B" INLET		TREE
	"E"-INLET		SHRUB
	YARD INLET	D.C.	DEPRESSED CURB
	FLARED END SECTION	L.S.A.	LANDSCAPED AREA
	TOP OF BERM PER SURVEY	--15--	MAJOR CONTOUR
			MINOR CONTOUR
x14.67			SPOT ELEVATION

GRAPHIC SCALE
20 10 0 10 20
APPROXIMATE SCALE IN FEET

NOT FOR CONSTRUCTION

NO.	DATE	APPR.	REVISION
C	5/22/17	AKB	ISSUED FOR AGENCY REVIEW – CAP DESIGN
B	5/5/17	RWM	FORMER LAGOON CAP DESIGN
A	7/16/14	RWM	PRELIMINARY FORMER LAGOON CAP DESIGN

DESIGNED BY:	DRAWN BY:	CHECKED BY:
RWM	DP	AKB
APPROVED BY:	PROJECT MGR.:	
AKB	JS	

REVISIONS

NO.	DATE
A	7/16/14
B	5/5/17
C	5/22/17

Adam K. Brown
STATE OF NEW JERSEY ADAM K. BROWN No. 24GE05296400 LICENSED PROFESSIONAL ENGINEER
NJ PROFESSIONAL ENGINEER 24GE05296400

FILE:

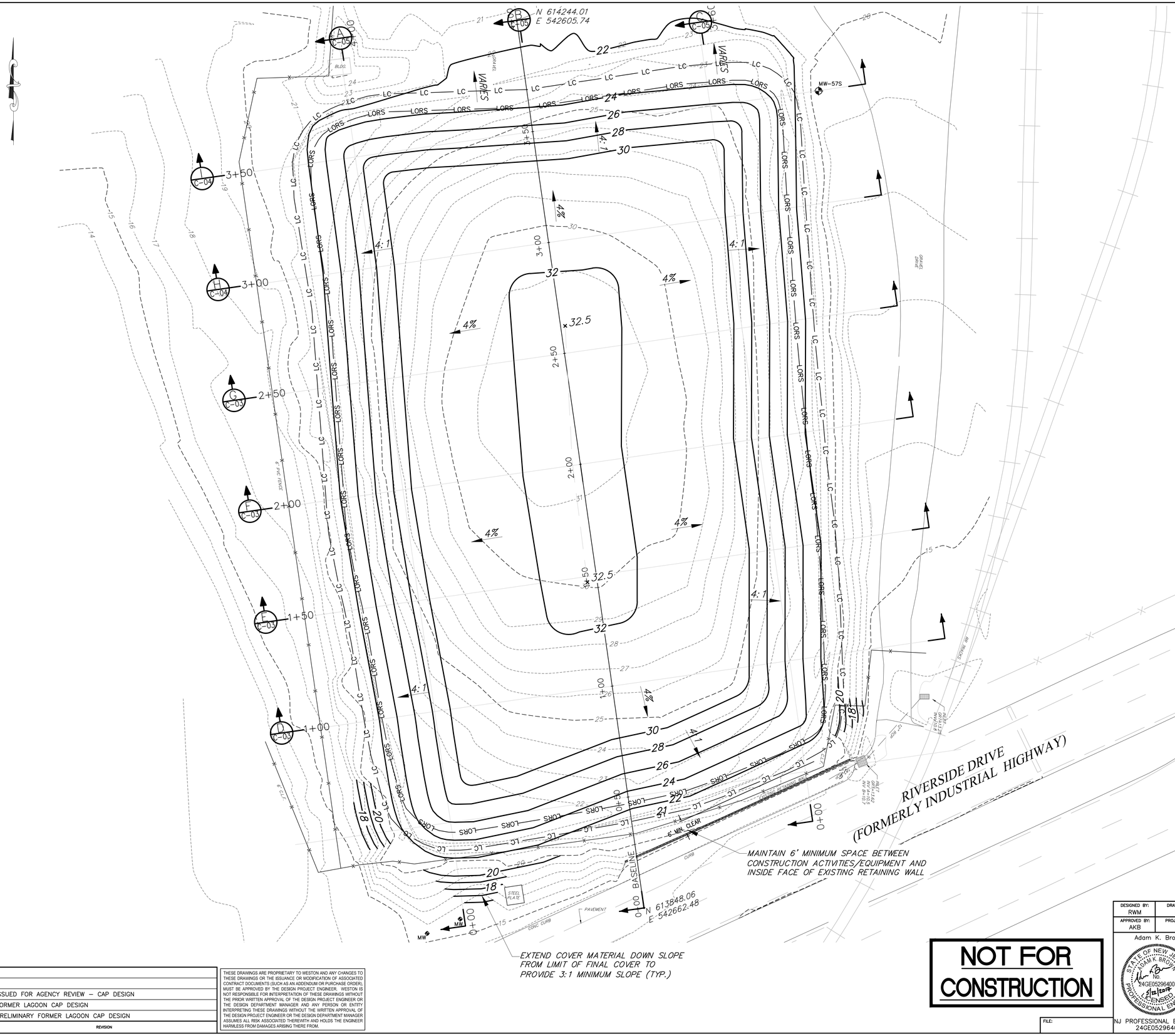
HATCO CORPORATION SITE
CAP DESIGN – FORMER LAGOON AREA
WOODBRIDGE TOWNSHIP, MIDDLESEX COUNTY NEW JERSEY

EXISTING CONDITIONS PLAN

WESTON SOLUTIONS
EDISON NEW JERSEY

SCALE:	DATE:	DRAWING NO.:	SHEET NO.:
1"=20'-0"	MAY 19, 2017	C-01	2 OF 6

FILE NO.: G:\ACADPROJ\13067001003 HATCO LAGOONCAP\ REDESIGN-APRIL2017.DWG



GENERAL NOTES:

1. TOPOGRAPHIC FEATURES OBTAINED FROM DRAWING ENTITLED "TOPOGRAPHIC SURVEY PORTION OF TAX LOT 100.01 BLOCK 67 1020 KING GEORGES POST ROAD TOWNSHIP OF WOODBRIDGE MIDDLESEX COUNTY NEW JERSEY" PREPARED BY DPK CONSULTING OF MIDDLESEX NEW JERSEY DATED APRIL 7, 2017.
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SYMBOL LEGEND

	CONC. MONUMENT FND		MAIL BOX
	I.P. / I.B. FND		CABLE TV BOX
	TACK / STAKE FND		TELEPHONE BOX
	WETLAND FLAG		A/C UNIT
x 103.55	SPOT ELEVATIONS		TRANSFORMER
	TRAFFIC SIGNAL POLE	E	ELECTRIC METER
	UTILITY POLE	G	GAS METER
	GUY WIRE	W	WATER METER
	LIGHT POLE	WV	WATER VALVE
	SIGN	GV	GAS VALVE
	FIRE HYDRANT	CO	CLEAN OUT
	BOLLARD	SP	SPRINKLER HEAD
RD	ROOF DRAIN	XG	GAS
	MONITORING WELL	XW	WATER
W	WELL	XE	ELECTRIC
	MANHOLE	XT	TELEPHONE
	"A"-INLET	XC	CABLE TV
	"B" INLET		TREE
	"E"-INLET		SHRUB
	YARD INLET	D.C.	DEPRESSED CURB
	FLARED END SECTION	L.S.A.	LANDSCAPED AREA

LEGEND

- EXISTING GRADE
- EXISTING FENCE
- LORS — LIMIT OF REUSED SOIL
- LC — PROPOSED LIMIT OF ENGINEERED COVER
- 24 — PROPOSED TOP OF ENGINEERED COVER
- x 32.5 — PROPOSED SPOT ELEVATION

GRAPHIC SCALE
20 10 0 10 20
APPROXIMATE SCALE IN FEET

NOT FOR CONSTRUCTION

NO.	DATE	APPR.	REVISION
C	5/22/17	AKB	ISSUED FOR AGENCY REVIEW – CAP DESIGN
B	5/5/17	RWM	FORMER LAGOON CAP DESIGN
A	7/16/14	RWM	PRELIMINARY FORMER LAGOON CAP DESIGN

DESIGNED BY: RWM	DRAWN BY: DP	CHECKED BY: AKB	
APPROVED BY: AKB	PROJECT MGR.: JS	REVISIONS NO.	DATE
		A	7/16/14
		B	5/5/17
		C	5/22/17

Adam K. Brown
STATE OF NEW JERSEY ADAM K. BROWN No. 24GE05296400 LICENSED PROFESSIONAL ENGINEER
NJ PROFESSIONAL ENGINEER 24GE05296400

HATCO CORPORATION SITE
CAP DESIGN – FORMER LAGOON AREA
WOODBRIDGE TOWNSHIP, MIDDLESEX COUNTY NEW JERSEY

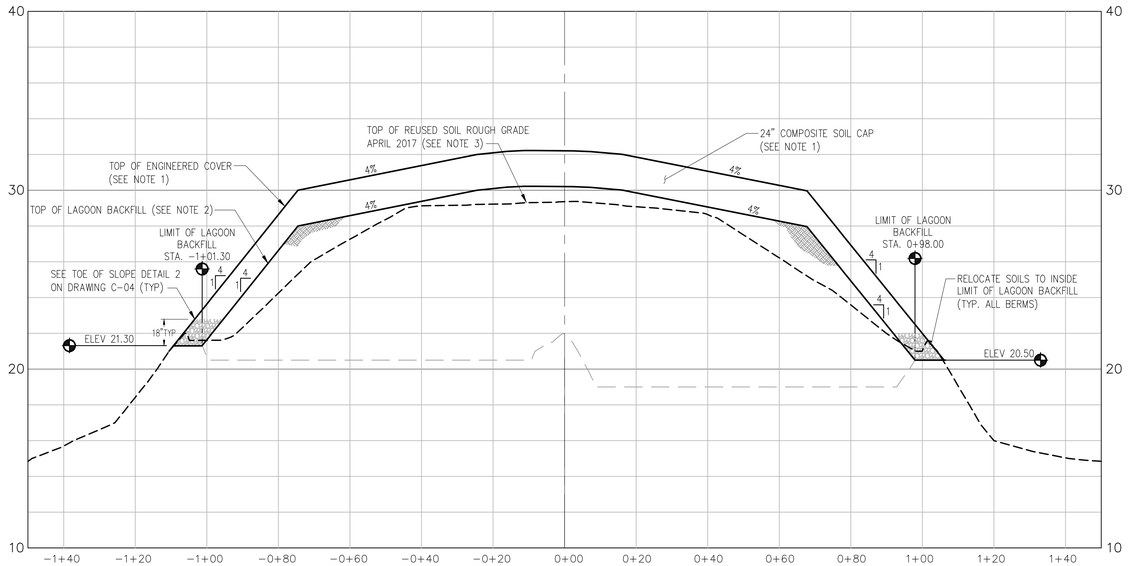
FINAL GRADING PLAN

EDISON NEW JERSEY

FILE:	SCALE:	DATE:	DRAWING NO.:	SHEET NO.:
	1"=20'-0"	MAY 19, 2017	C-02	3 OF 6

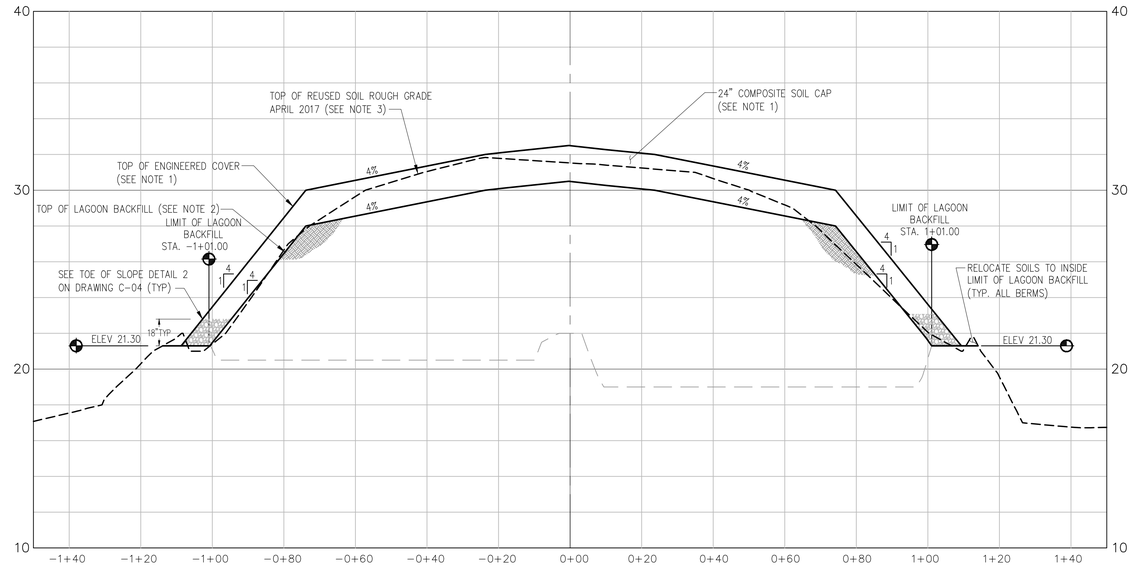
FILE NO.: G:\ACADPROJ\13067001003 HATCO LAGOONCAP\ REDESIGN-APRIL2017.DWG

NOTE:
SEE DRAWING C-05 FOR NOTES



SECTION E
STA.1+50
C-01
C-02

HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"

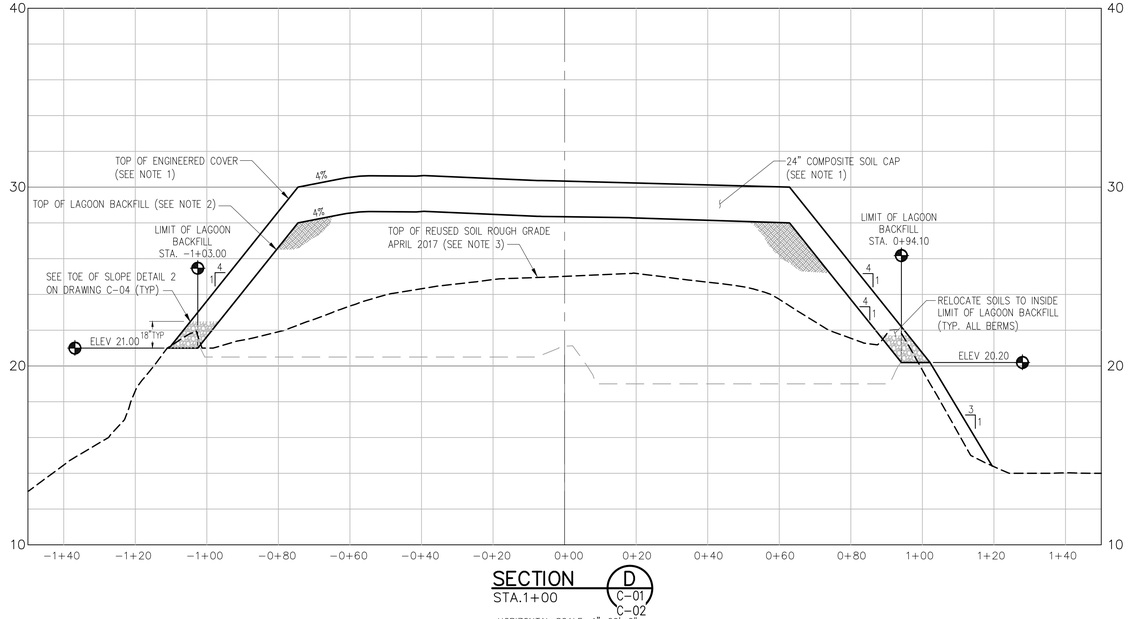


SECTION G
STA.2+50
C-01
C-02

HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"

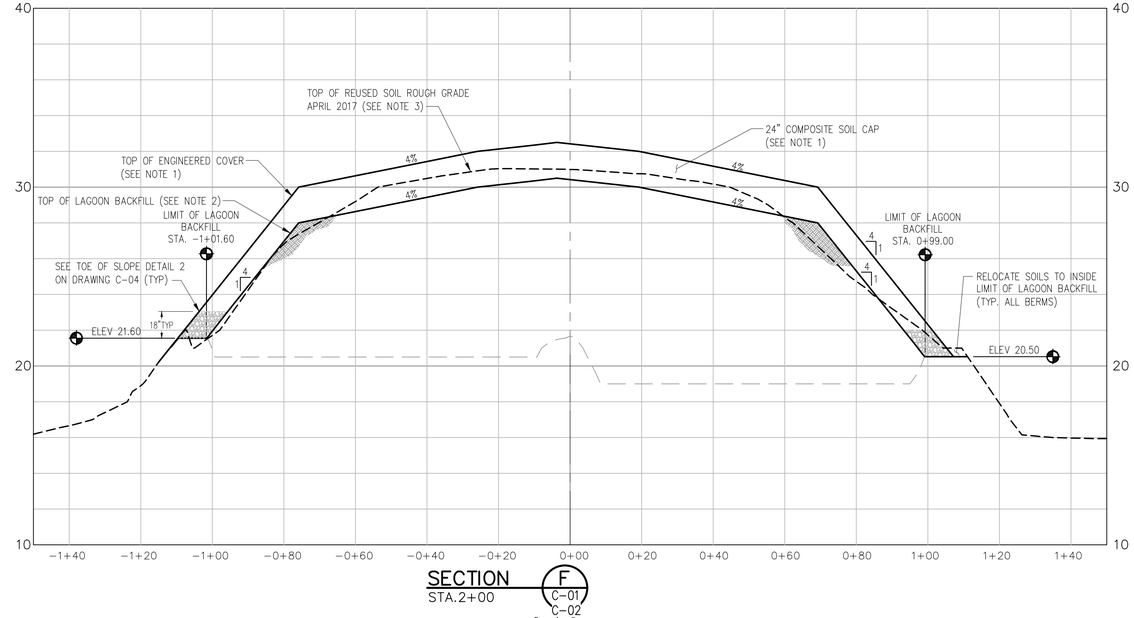
LEGEND

PROPOSED GRADE
SURVEYED GRADE (2017)
FORMER LAGOON GRADE (2007)



SECTION D
STA.1+00
C-01
C-02

HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"



SECTION F
STA.2+00
C-01
C-02

HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"

GRAPHIC SCALE
20 10 0 10 20
HORIZONTAL SCALE IN FEET
4 2 0 2 4
VERTICAL SCALE IN FEET

NOT FOR CONSTRUCTION

NO.	DATE	APPR.	REVISION
C	5/22/17	AKB	ISSUED FOR AGENCY REVIEW – CAP DESIGN
B	5/5/17	RWM	FORMER LAGOON CAP DESIGN
A	7/16/14	RWM	PRELIMINARY FORMER LAGOON CAP DESIGN

DESIGNED BY:	RWM
DRAWN BY:	DP
CHECKED BY:	AKB
APPROVED BY:	AKB
PROJECT MGR.:	JS

REVISIONS

NO.	DATE
A	7/16/14
B	5/5/17
C	5/22/17

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FILE:

SCALE: AS SHOWN
DATE: MAY 19, 2017
DRAWING NO.: C-03
SHEET NO.: 4 OF 6

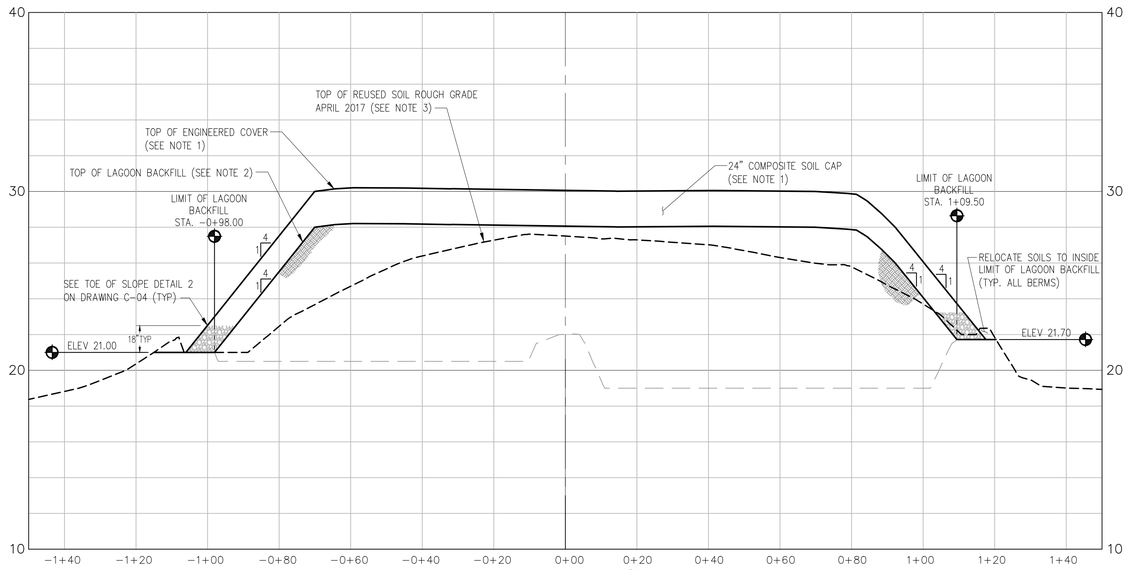
HATCO CORPORATION SITE
CAP DESIGN – FORMER LAGOON AREA
WOODBRIDGE TOWNSHIP, MIDDLESEX COUNTY NEW JERSEY

SECTIONS
SHEET 1 OF 3

EDISON NEW JERSEY

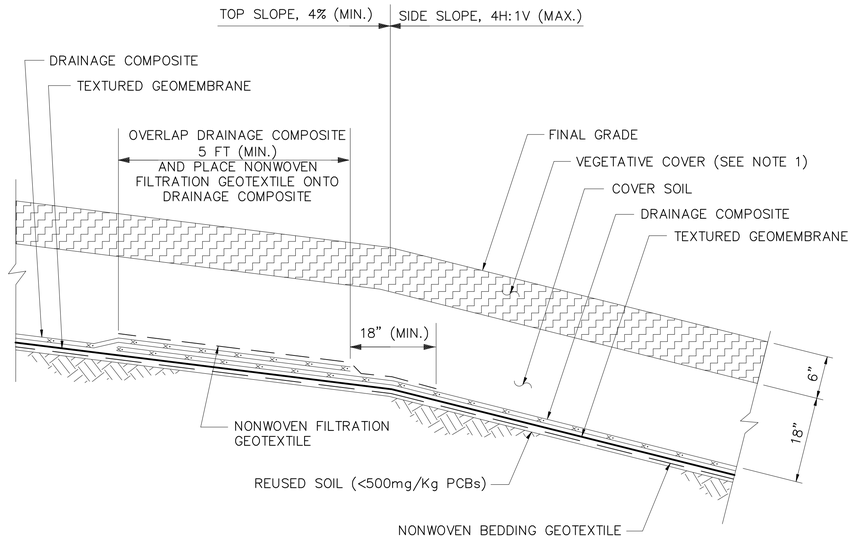
FILE NO.: G:\ACADPROJ\13067001003 HATCO LAGOONCAP\ REDESIGN-APRIL2017.DWG

NOTE:
SEE DRAWING C-05 FOR NOTES

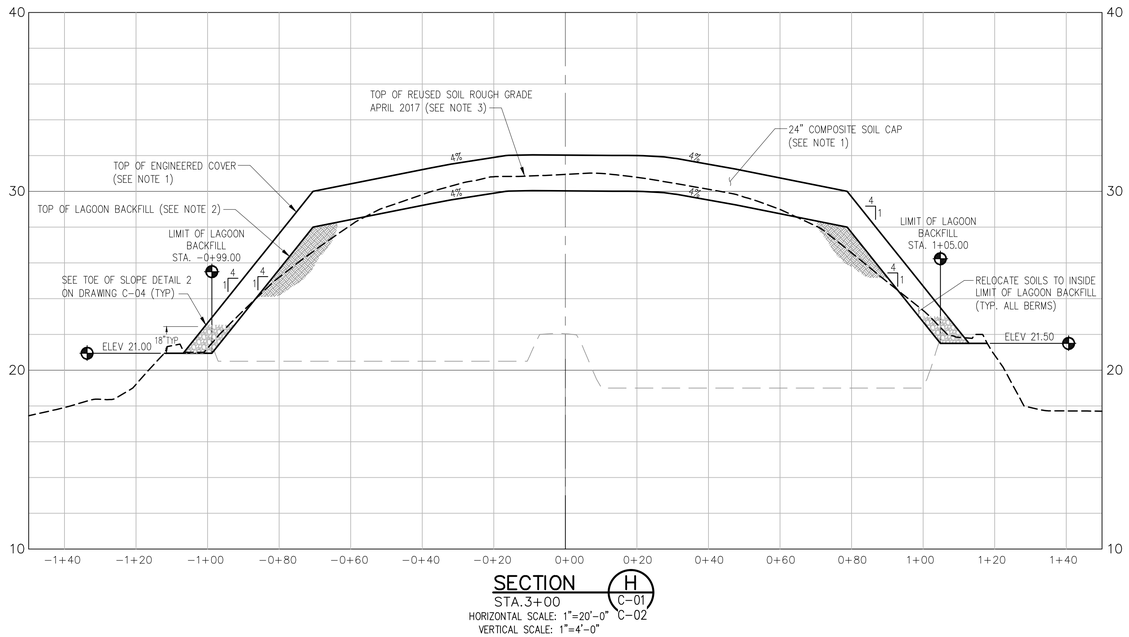


SECTION I / STA. 3+50 / C-01 / C-02
HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"

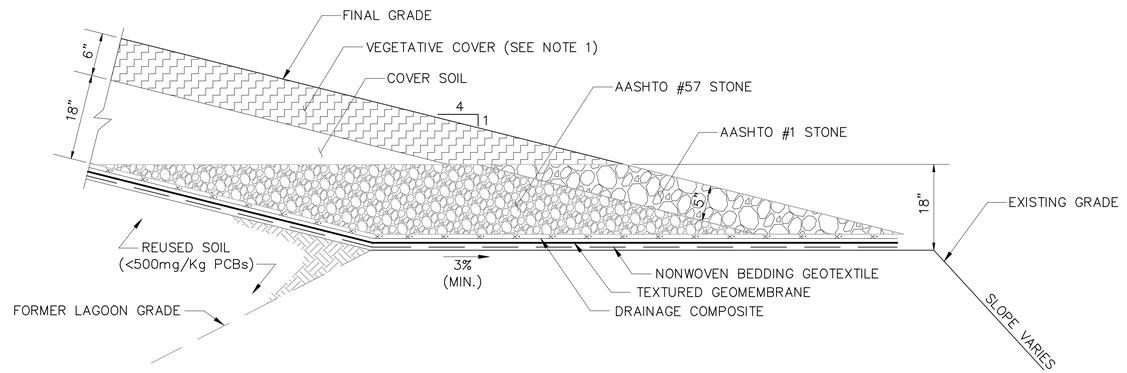
LEGEND
- PROPOSED GRADE
- SURVEYED GRADE (2017)
- FORMER LAGOON GRADE (2007)



1 TYPICAL ENGINEERED COVER CROSS SECTION
SCALE: NONE



SECTION H / STA. 3+00 / C-01 / C-02
HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"



2 TYPICAL ENGINEERED COVER TOE OF SLOPE SECTION
SCALE: NONE

FILE NO.: G:\ACADPROJ\13067001003 HATCO LAGOONCAP\ REDESIGN-APRIL2017.DWG

NO.	DATE	APPR.	REVISION
C	5/22/17	AKB	ISSUED FOR AGENCY REVIEW – CAP DESIGN
B	5/5/17	RWM	FORMER LAGOON CAP DESIGN
A	7/16/14	RWM	PRELIMINARY FORMER LAGOON CAP DESIGN

GRAPHIC SCALE
20 10 0 10 20
HORIZONTAL SCALE IN FEET
4 2 0 2 4
VERTICAL SCALE IN FEET

NOT FOR CONSTRUCTION

DESIGNED BY:	DRAWN BY:	CHECKED BY:
RWM	DP	AKB
APPROVED BY:	PROJECT MGR.:	REVISIONS
AKB	JS	NO. / DATE

A 7/16/14
B 5/5/17
C 5/22/17

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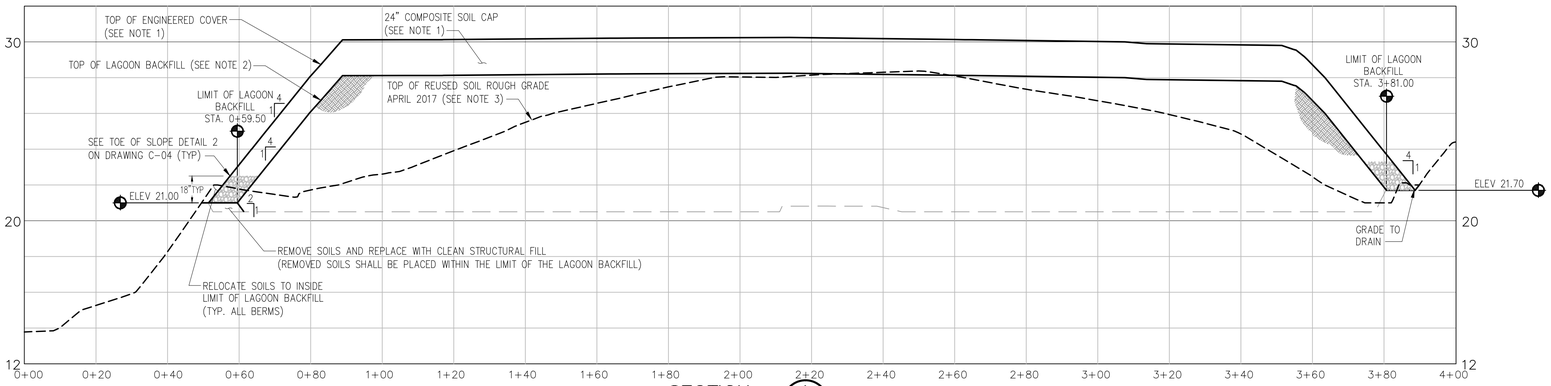
FILE:

HATCO CORPORATION SITE
CAP DESIGN – FORMER LAGOON AREA
WOODBRIDGE TOWNSHIP, MIDDLESEX COUNTY NEW JERSEY

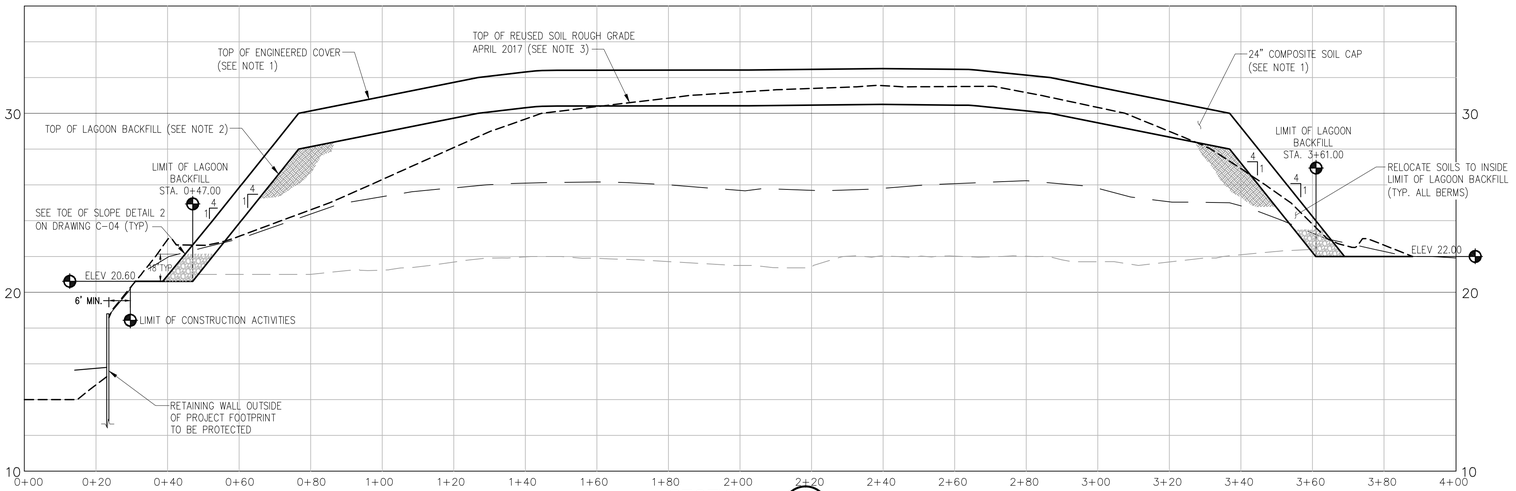
SECTIONS
SHEET 2 OF 3

EDISON NEW JERSEY

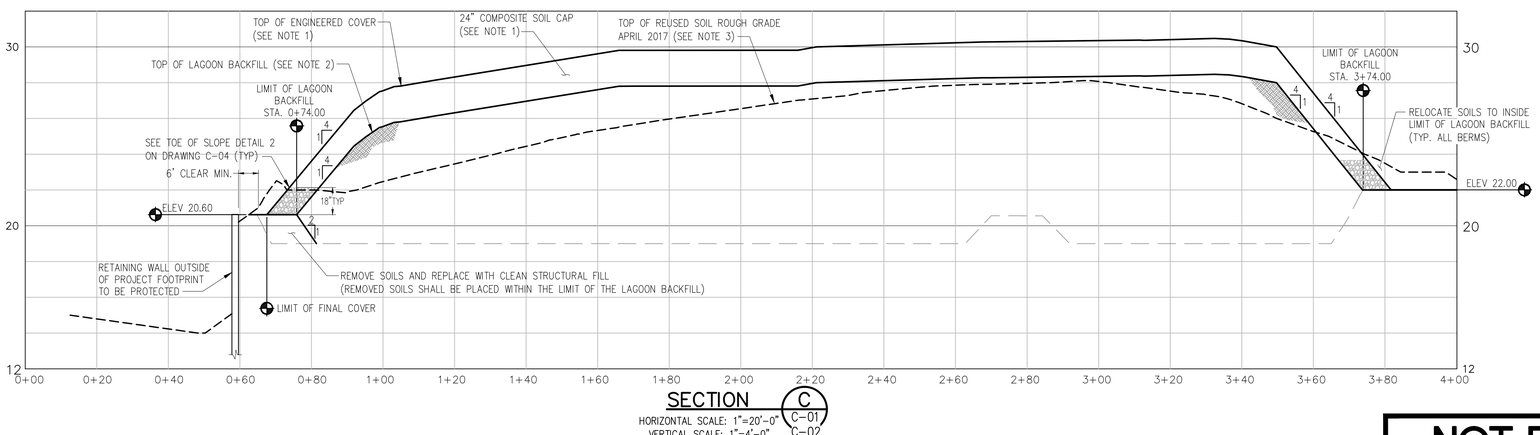
SCALE:	DATE:	DRAWING NO.:	SHEET NO.:
AS SHOWN	MAY 19, 2017	C-04	5 OF 6



SECTION A (C-01, C-02)
HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"



SECTION B (C-01, C-02)
HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"



SECTION C (C-01, C-02)
HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=4'-0"

NOTES:

1. LAGOON CAP/ENGINEERED SOIL COVER WILL CONSIST OF A GEOSYNTHETICS LAYER COMPRISED OF, FROM BOTTOM TO TOP, A NONWOVEN BEDDING GEOTEXTILE, TEXTURED GEOMEMBRANE, AND DRAINAGE COMPOSITE, ALL UNDERLYING 18 INCHES OF COVER SOIL AND SIX INCHES OF VEGETATIVE COVER TO SUSTAIN VEGETATIVE GROWTH AT THE SOIL COVER SURFACE. (REFER TO DETAIL 1 ON DRAWING C–04). THE COMBINED THICKNESS OF THE GEOSYNTHETICS LAYER WILL BE NOT LESS THAN 50 MIL AND A PERMEABILITY OF NOT LESS THAN 10–7CM/SEC. THE INDIVIDUAL COMPONENTS OF THE ENGINEERED SOIL COVER WILL HAVE THE FOLLOWING PROPERTIES:
   - NONWOVEN BEDDING GEOTEXTILE – NON WOVEN AND NEEDLE PUNCH, DESIGNED TO PROVIDE A CUSHIONING LAYER BETWEEN THE WASTE MATERIAL AND LINER
   - TEXTURED GEOMEMBRANE – LINEAR LOW DENSITY POLYETHYLENE, DESIGNED TO PREVENT INFILTRATION OF STORMWATER AND CARRY THE CONSTRUCTION, SOIL, AND LIVE LOADING FROM MAINTENANCE EQUIPMENT
   - DRAINAGE COMPOSITE – A DOUBLE SIDED GEONET HEAT BONDED TO NON–WOVEN NEEDLE PUNCHED GEOTEXTILES, DESIGNED TO LIMIT HEAD BUILDUP WITHIN THE COVER SOIL TO ACCEPTABLE LEVELS AND TRANSFER STORMWATER TO THE PERIMETER TOE DRAIN (REFER TO DETAIL 2 ON C–04)
   - COVER SOIL – STRUCTURAL FILL COMPRISED NATURAL SOILS AND FREE OF DELETERIOUS OR OTHERWISE COMPRESSIVE MATERIAL, DESIGNED TO REMAIN STABLE UNDER ALL PROPOSED SLOPE ANGLES AND LOADING CONDITIONS
   - VEGETATIVE COVER – NATURAL SOILS PROVIDING A GROWING MEDIUM CAPABLE OF SUSTAINING VEGETATIVE GROWTH WITH MINIMAL MAINTENANCE, DESIGNED TO REMAIN STABLE UNDER ALL PROPOSED SLOPE ANGLES AND LOADING CONDITIONS
2. LAGOON BACKFILL MATERIAL IS RELOCATED SOIL FROM OTHER AREAS OF THE HATCO SITE DETERMINED TO CONTAIN LESS THAN 500 MG/KG (PPM) PCBS AND NO LNAPL.
3. BACKFILL MATERIAL SHALL BE RELOCATED TO MEET THE PROPOSED LIMITS OF THE LAGOON BACKFILL AND TO ACCOMMODATE A MINIMUM 24–INCH COVER AS DISCUSSED IN NOTE 1 ABOVE.

LEGEND
- PROPOSED GRADE
- SURVEYED GRADE (2017)
- FORMER LAGOON GRADE (2007)

NO.	DATE	APPR.	REVISION
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GRAPHIC SCALE
20 10 0 10 20
HORIZONTAL SCALE IN FEET
4 2 0 2 4
VERTICAL SCALE IN FEET

NOT FOR CONSTRUCTION

FILE:

DESIGNED BY:	DRAWN BY:	CHECKED BY:
RWM	DP	AKB
APPROVED BY:	PROJECT MGR.:	
AKB	JS	

REVISIONS

NO.	DATE
A	7/16/14
B	5/5/17
C	5/22/17

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NJ PROFESSIONAL ENGINEER 24GE05296400

HATCO CORPORATION SITE
CAP DESIGN – FORMER LAGOON AREA
WOODBRIDGE TOWNSHIP, MIDDLESEX COUNTY NEW JERSEY

SECTIONS
SHEET 3 OF 3

WESTON SOLUTIONS
EDISON NEW JERSEY

SCALE: AS SHOWN | DATE: MAY 19, 2017 | DRAWING NO.: C–05 | SHEET NO.: 6 OF 6

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